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TITLE : VERY QUICK-HARDENING CEMENT COMPOSITION

ABSTRACT : PROBLEM TO BE SOLVED: To obtain a cement compsn. having high flowability even after the lapse of a specified time after kneading and exhibiting the desired strength in a short time at the time of filling a grout material by mixing very quick-hardening cement with fine aggregate, a specified amt. of fly ash of a specified particle diameter or below and a chemical admixture.

SOLUTION: Very quick-hardening cement is mixed with fine aggregate, 10-40 wt.% classified fine particulate fly ash of $\leq 10 \mu\text{m}$ particle diameter based on the total weight of the cement and the fly ash and a chemical admixture to obtain the objective cement compsn. having such high flowability as to ensure inflow in small parts even after the lapse of 20 min after kneading and exhibiting the desired strength in 2 hr at the time of filling a grout material. The cement preferably contains at least one selected from among $12\text{CaO} \cdot 7\text{Al}_2\text{O}_3$, $11\text{CaO} \cdot 7\text{Al}_2\text{O}_3 \cdot \text{CaX}_2$ (X is halogen), $3\text{CaO} \cdot 3\text{Al}_2\text{O}_3 \cdot \text{CaSO}_4$ and non-crystalline calcium aluminate as the principal component. The fine aggregate is based on silica sand.

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